

PATENT

INSTITUT FRANCAIS DU PETROLE

**IMPROVED DEVICE FOR MEASURING PHYSICAL  
CHARACTERISTICS OF A POROUS SAMPLE**

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**ABSTRACT**

- Device for measuring physical characteristics of a porous sample by performing successive drainage and imbibition phases in the presence of a first electricity-conducting fluid and of a second fluid of lower density than the first fluid, by means of a centrifuge whose speed is successively increasing and decreasing. The sample saturated with the first fluid is placed in a vessel (13) fastened to the end of an arm (9) driven in rotation by a motor (10) and communicating, by means of a rotating electro-hydraulic connector (17), with a stationary measuring signal control and acquisition unit (E) including hydraulic fluid displacement means and an acquisition device connected to a capacitive sonde in the vessel, which delivers signals indicative of the position of the interface between the two fluids. The device can be applied for analyzing rocks taken from an underground reservoir for example.